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AUTHOR	Weeks, Thelma E.
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ABSTRACT

This study of child language acquisition concerns various structural and paralinguistic features of language and examines their role in the total language acquisition process. The informants were three children (two boys and one girl) aged five years, two months; three years, four months; and one year, nine months. Their speech was recorded over a six-week period which resulted in a total of forty hours of recorded speech. After examining the recorded material, the investigator could identify ten language features, which she calls "speech registers"-(1) Whisper, (2) Softness, (3) Loudness, (4) Clarification, (5) Fuzzy Speech, (6) High Pitch, (7) Grammatical Modification, (8) Phonetic Modification, (9) Exaggerated Intonation, and (10) Mimicry. This paper describes in detail the language phenomena recorded, emphasizing important or surprising discoveries. She concludes that exaggerated intonation was the most versatile of all registers as a means of communication for children without adequate vocabulary, and that children learn a number of identifiable registers and begin to use them at almost the same age as they learn to use language itself. (FB)

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SPEECH REGISTERS IN YOUNG CHILDREN[1]

Thelma E. Weeks

Committee on Linguistics

Stanford University

This study concerns the acquisition by young children of some marked structural features of language as well as some paralinguistic features, used throughout an utterance or a portion of an utterance to offer a contrast to the same utterance in unmarked form. These features will be referred to as speech registers, using the term register as it has been defined by Halliday, McIntosh and Strevens (1964). They state that speech varieties in a language community consist of a variety according to user, that is, varieties in the sense that each speaker uses one variety and uses it all the time, and varieties according to use, that is, in the sense that each speaker has a range of varieties and chooses between them at different times. The variety according to user is a dialect, and the variety according to use is a register. The speech registers described in this paper function to convey additional information or emotion beyond that conveyed by the words alone.

This study is also concerned with the social context of speech register acquisition. There has been considerable interest in recent years in the variation in speech development according to certain social aspects (Bernstein, 1962; Hymes, 1962; and Labov, 1966), and also in the many facets of paralinguistics (Crystal, 1969a & b; Hymes, 1962; Pittenger, Hockett & Danehy, 1960;

AL 002 319

Slobin, 1967; and Trager, 1958, 1960). There appear, however, to be no studies in the literature dealing with first acquisition of these features of language by young children. The study presented here is intended to be a preliminary step toward filling this need.

Method

Informants. Informants for the present study were three children--two boys aged five years and two months, and three years and four months, and a girl, aged one year and nine months at the conclusion of the study. Data was gathered over a period of two years from the boys, Fred and John, and for one year and seven months from the girl, Leslie. Fred and Leslie are siblings and John is their cousin. All three children are from college-educated families.

Procedure. Data was gathered by tape recorder at irregular intervals of about two to six weeks. Each session lasted as long as the child remained interested in the activity; this varied from about five minutes to an hour. Notes regarding a session were usually written soon after. In some instances speech was transcribed by hand when recording equipment was not present or was not turned on. Both of the boys were accustomed to the tape recorder before the data collection began and appeared comfortable with the microphone. Their usual reward for a recording session was to be allowed to put on the earphones and play "airplane pilot" while they listened to a playback of the tape just made or to some

other tape. At one year and nine months Leslie seemed unaware of the recording equipment. A total of about 40 hours of speech was recorded with the three children.

An attempt was made to vary the setting and the individuals with whom the children talked in order to elicit a full range of their speech varieties. Recording sessions took place in the children's homes, the investigator's home, parks, and other public places. Verbal interchange took place with all members of each child's family, with each other, with the investigator and with friends. The children were also recorded talking to their pets.

Organization of the Data. While transcribing early parts of this data, the investigator became increasingly interested in the questions raised by Fishman (1969), Hymes (1962), Ferguson (1964, 1968), Slobin (1967), and others. These investigators asked: What does a child internalize about speaking, beyond rules of grammar and a dictionary? How and when does a child born into a speech community learn the speech varieties of his community? How and when does a child learn the appropriate ways of signalling local role-relationships? What effect does cultural background have on the acquisition of speech varieties?

At the end of about 19 months of data-gathering a preliminary attempt was made to organize and analyze the data in terms of these questions using such variables as the relative age of the speaker and listener or the formality of the situation (Weeks, 1969). This preliminary study indicated that for these children, variation with social situation appeared to be largely lexical. The present study

is an attempt to find paralinguistic, phonological or morphological variations which offer an affective or grammatical contrast. An analysis of the data for variations of this kind identified the following ten speech registers:

Intensity:	1.	Whisper
	2.	Softness
	3.	Loudness
Enunciation:	4.	Clarification
	5.	Fuzzy speech
Baby Talk:	6.	High pitch
	7.	Grammatical modification
	8.	Phonetic modification
	9.	Exaggerated intonation
	10.	Mimicry

Most of the utterances recorded during the course of this study were found to be unmarked, that is, to contain none of the speech registers listed above. Therefore, they formed the principal basis for making a judgment about what was marked for a particular child at a particular time.

Table 1 offers examples at varying ages of each of the registers listed above, as well as examples of each of the clusters of registers that were found. A plus mark indicates the presence of that particular register in the utterance on that line and a minus indicates its absence.

Insert Table 1 about here

Description of Speech Registers.

A description of each of the speech registers discussed in this paper follows:

Whisper. The whispering which was identified as a speech register with these children seemed comparable in every way to the whispering of adults, and was often maintained over several sentences.

Softness. This register, as well as its contrasting register, loudness, has been referred to by a number of linguists. Trager (1958) discusses a number of aspects of paralanguage including intensity and pitch range. An example of one of the functions of softness is given by Trager (1960, p. 28) when he reports that a Taos Indian used "one-degree oversoftness" in mentioning the non-Indian town, "Mexican" Taos. "Nearly every time the town or the 'Mexicans' are mentioned, there is special paralanguage. This we interpret as referring to the great emotional impact of this reference; the Taos dislike the 'Mexicans', accuse them of squatting on what is really Indian land, and talk about them disparagingly, almost as we would hesitate to use a dirty word."

Pittenger, Hockett, and Danehy (1960, p. 23) also refer to softness in discussing the speech of an adult psychiatric patient: "The squeeze and second-degree oversoft on I get so may be due to her dislike for making such an acknowledgment."

When the children in the present study used the register of softness it was usually necessary to get up to within a foot or two of them in order to hear what they were saying.

Loudness. Speech which was judged to be of the loudness register was well above normal volume--not shouting, but approaching it. It was often maintained throughout an entire utterance. Loudness as used for word emphasis in English is not considered a separate register, although its use in this way by the children was noted.

Clarification. In general terms, this includes speech that is delivered slowly and with more careful enunciation than is normal for a particular child at a particular stage of language development. One of Fred and John's signals denoting this register was the use of full forms as opposed to contractions, and one of Fred's signals was an invariable use of a velar nasal with verb forms ending in -ing instead of a dental nasal. A study by Fischer (1958) indicated that children tend to use the velar nasal more in formal situations than in informal situations. Both of these items (full forms and velar nasals) might be included under a register of formality somewhat as defined by Joos (1961) if it could have been isolated, but it appeared to be too complex for consideration in this study.

Fuzzy speech. A number of utterances were found in which the speech throughout was decidedly slurred or not clearly enunciated, as opposed to clarified speech. The literature contains other references to fuzzy speech. For example, Carlson and Anisfeld (1969) refer to such a speech style in a 31-month-old-boy who used it in situations in which he knew he would probably be forbidden to do what he was about to request. These authors mention the characteristics

of this speech as being "fuzzy enunciation, very soft voice, and twisting of the head as he spoke." Bodine (1968) also mentions fuzzy enunciation as a characteristic of private speech in a five-year-old mongoloid boy in situations where he is not concerned with being understood.

The fuzzy speech transcribed from these three children seemed to have a nasal quality in almost every case, but this may not be an essential feature of the register.

High pitch. Pitch has been mentioned frequently in the literature in reference to the pitch levels of intonation (Pike, 1945; Trager & Smith, 1957), or to tone languages, which are sometimes called tone registers. However, the register of high pitch as it is used in this study refers to the use throughout an utterance of a higher pitch than is normal for a particular child at a particular stage of his language development.

A contrasting register of low pitch was not found.

Grammatical modification. This is one of the registers usually found in baby talk. Ferguson (1964) states that "baby talk includes at least three kinds of material: (a) intonational and paralinguistic phenomena which occur with normal language as well as with other baby-talk material; (b) morphemes, words, and constructions modified from the normal language; and (c) a set of lexical items peculiar to baby talk." The register of grammatical modification as used in this paper represents morphological change. Ferguson's intonational and paralinguistic phenomena are represented

in this paper by the registers' phonetic modification and exaggerated intonation. This study does not include any discussion of lexical items peculiar to baby talk.

Simplification is thought to be the type of grammatical modification most often used in baby talk. The two principal aspects of simplification according to Ferguson (1968) are the use of uninflected forms in instances where the language has an inflectional system, e.g., the use of the present tense rather than the past tense, and the use of an unmarked term where the language has grammatical categories involving unmarked-marked opposition, e.g., the use of the singular rather than the plural. For this study the more general term, grammatical modification, is used because some of the instances found were not examples of simplified speech, e.g., the use of plural instead of singular.

Phonetic modification. The use of this register is another aspect of baby talk discussed by Ferguson (1964). Some of the modifications from normal speech that occur in baby talk as suggested by him are the simplification of consonant clusters, e.g., tummy for stomach, replacement of r by another consonant, e.g., wabbit for rabbit, and an interchange among sibilants, e.g., soos for shoes. The most distinctive phonetic change made by the children in this study seemed to be effected by the rounding and pursing of their lips, similar to the "pouting" referred to by Kelkar (1964) in Marathi baby talk. This resulted in raising and fronting of virtually every vowel, s almost always becoming š, and l and r often becoming w.

Exaggerated intonation. This term refers to a much wider pitch range than is used in normal speech. It has been mentioned by a number of linguists, particularly in connection with its use in baby talk. It has sometimes been called Ammenton or "nursery tone," a term first used by a German linguist named Schäfer (1922) and cited by Crystal (1969a). Ammenton is also referred to by Ferguson (1964).

Mimicry. The utterances labeled as mimicry are those in which the child repeats words he has heard someone else say and in which he also mimics the intonation pattern and other aspects of the style of speech of the person being imitated. Most of the mimicked utterances in this study were instances in which the child was remembering something he had heard at some pervious time, but a few instances of immediate mimicry were also recorded.

Results

The observed functions of each register when used alone is given in Table 2. Grammatical modification, phonetic modification, and exaggerated intonation served only one function each while whispering had four functions.

Insert Table 2 about here

Each register was found to co-occur with at least one other register (Table 3). Out of a possible 285 clusters, counting the co-occurrence of two registers as a cluster, only 16 were identified in this study. The greatest number of registers found in one cluster was five. The three registers of intensity (whisper,

softness and loudness) are mutually exclusive as registers, as are clarification and fuzzy speech.

Insert Table 3 about here

The observed functions of each of the register clusters are listed in Table 3. There were six different clusters used for baby talk when speaking to a baby plus a cluster for baby talk directed to an older childand another one directed to an adult--a total of eight--indicating the complexity of this style of speaking.

Table 4 indicates which registers were found to co-occur. Exaggerated intonation co-occurred with every register except fuzzy speech, and was the only register to co-occur with whispering. Clarification and high pitch each co-occurred with five other registers; phonetic modification and mimicry each co-occurred with four other registers; softness and loudness each co-occurred with three others; grammatical modification co-occurred with two others; and fuzzy speech and whispering each co-occurred with only one other register.

Insert Table 4 about here

Discussion

The use of whispering was one of the ways in which the children differed the most. Whereas Leslie and John started to use whispering at about the same time they started to talk, Fred was

not heard to use it until he was 4,6. His purpose then was to tell a secret, a purpose for which Leslie and John had not used it. Now, at 5,2, Fred makes frequent use of whispering, always for secrets or matters he interprets as being confidential. In situations where any of the three children were asked not to talk, such as when parents were on the telephone or talking to someone else, Leslie and John resorted to whispering. In these situations Fred spoke with normal intensity at an earlier age, but at 5,2 usually refrains entirely from speaking.

Leslie also uses whispering in mimicry of Fred. He often has secrets to tell his mother or father and when Leslie sees him whispering she goes to her parents and whispers noises--not words; then goes to the dog and whispers in his ear also.

From about 2,6 to 3,1, John whispered to his parents if they were visiting someone and he wanted to make a request, such as for a drink of water. He expected his parents then to make the request for him. He also uses whispering when he's concentrating, principally in private speech, where Fred uses softness. At 3,4 John is just beginning to grasp the concept of secret-keeping but has never used whispering for secrets.

It could be reasoned that Leslie learned to whisper at an earlier age than Fred because she had Fred to imitate, but there is no obvious reason why John learned to use whispering at the same early age while Fred did not, except possibly the nature of each of the boys--John is more quiet, reticent, and eager to please, while Fred is more boisterous, aggressive and seems to be less concerned about pleasing.

Examples of whispering are given in Samples 1, 2, and 3 of Table 1.

The softness register seems to be appropriate to several kinds of circumstances, but in most cases there is an element of not caring whether anyone hears or not. Softness plus fuzzy speech often accompanies the asking of a futile question, such as Sample 4 in Table 1. This is a question Fred asked three times, first from a distance of about twenty feet, second from a distance of about ten feet, but he could not be understood from either distance. The third time was from a distance of about one foot. He had neither raised his voice nor tried to clarify his speech so he could be heard from a greater distance. He already knew the answer to his question.

Another interesting case in which Fred used softness and repeated himself once without clarifying his speech was an instance in which he was not strictly telling the truth, for, although he was denying it, his teacher said he frequently told her about things that happened at home (Sample 5). In other instances of his correcting someone, normal intensity or loudness and clarification were more usual, but here he used fuzzy speech with softness.

Softness often seems to accompany shame or remorse. In the case of Sample 6 it is impossible to know whether Leslie felt ashamed or whether she assumed her mother knew she didn't want to go to her room and the answer was therefore unnecessary.

Generally the sentences transcribed with the softness register had much less variation in intonation than thos of normal intensity,

and some seemed almost monotone.

Loudness was one of the registers that seemed to be the easiest for the children to maintain throughout an entire utterance or discourse. One explanation for this may be that it appears at the very earliest ages, often being the distinctive feature differentiating two utterances that are the same phonetically, as with Sample 8. In this case, loudness meant Leslie was scolding the investigator and explaining why she didn't want her sweater off, while normal intensity would have meant she was saying good-bye.

It was hypothesized that loudness would frequently accompany clarification in instances of correction, but in this study, loudness accompanied clarification only about one-fourth of the time, and of these, only a few were instances of the child correcting someone. Loudness does accompany fighting among children and correction or scolding is often a prelude to this activity.

Loudness was also found to accompany boasting, excitement, emphasis in conversation or storytelling, and as a means of getting attention.

The youngest age at which the clarification register was recorded was 1,11 (Sample 9). This seemed to be about the age at which John began to get indignant when people could not understand him. In this example, John clarified his statement principally by putting a noticeable boundary between each syllable.

There are no examples to date of Leslie trying to clarify her speech. She is more inclined to correct a misunderstanding by saying "no no," pointing to the referent, or using gestures.

Other uses of clarification included explanations or instructions (Samples 10, 11, 12, and 19) as well as making sure there would be no misunderstanding (Sample 13). An example of this is Sample 11 where Leslie was 1,7 and Fred had stopped using baby talk with her and used clarification instead, as though she might not understand otherwise.

Fuzzy speech has already been mentioned in connection with softness. Fuzzy or slurred speech is sometimes used in private speech. When fuzzy speech is rapid it is usually due to excitement, as in Sample 14.

Fred sometimes uses fuzzy speech when he is trying to think of what to say (Sample 15). He also used it with softness to report an unhappy experience (Sample 16)--the opposite of Sample 11 in which he used clarified speech with loudness for a happy experience.

It was interesting to note that Fred follows the adult pattern of inaccurate reporting of his own speech habits (Sample 15). He reported that he called his sister "Leslie" when in fact he invariably calls her "Les."

High pitch was one of the most frequently recorded registers. It was used occasionally by the boys with a whining voice when they objected to doing something they were asked to do. Leslie does not seem to have learned to use high voice for this purpose yet. The earliest example of high pitch with John was recorded at 1,11 (Segment 20) although he may have used it earlier. It may be that high pitch is secondary when it functions in this way with a whine.

Pike (1945, p. 99) points out that the vocal cords are very tense during a tearful or whining utterance. The tenseness brought on by unhappiness may be the primary feature in common with the register cluster of fuzzy speech and softness in an unhappy experience. Both of these clusters included prominent nasal qualities.

High pitch is used by all three of the children in connection with excitement, and Fred uses high pitch when he is uncertain. A number of examples of this have been found in recording a tag question test which Fred took in connection with another research project. He was given a sentence and asked to repeat it, adding the appropriate tag question, e.g., "He came, didn't he?" The first time he took the test he was 3,9 and every tag question was pitched considerably higher than his sentence. It seemed that the more uncertain he was about the form the tag question should take, the higher pitched his tag question was. He took the test four times over a period of a year, and during the last two tests, as it became easier for him, his pitch was normal for all but a few of the most difficult tags.

Fred's use of high pitch for uncertainty may be equivalent to a "puzzled" tone of voice reported by Crystal (1969b). He conducted an experiment in which he asked informants to read sentences in a "puzzled tone of voice." Results showed that "there is a strong tendency to high pitch as opposed to low, soft utterance as opposed to loud."

In contrast to the cluster of high pitch plus fuzzy speech is the cluster of high pitch plus clarification for excitement (Sample 21).

The clusters in which high pitch was most often found were those which comprise baby talk style. In Fred's use of baby talk with Leslie, for example, high pitch was the one register he invariably used; as she got older it reached a point where the high pitch register was the only remnant of baby talk style when he addressed her. Sample 17 is typical of his baby talk to Leslie when she was younger.

On occasion Fred uses all of the registers of baby talk mentioned in this paper--grammatical modification, phonetic modification, exaggerated intonation, mimicry, and high pitch. Neither of the other children were found to use grammatical modification, and surprisingly, Fred was not observed to use it for Leslie's benefit. One instance of grammatical modification was when Fred, at 5,1, was watching a movie of himself which was taken when he was ten months old. In the movie he was swinging, and Fred said, "Oh, boy, I swinged well--I swung well." Momentarily he reverted to a form he had used at a younger age.

Fred also used grammatical modification as a part of his baby talk to an adult at 3,4 as a means of getting sympathy for a very minor injury which was virtually healed (Sample 18). This was less than a month before Leslie was born, and there was a great deal of talk about a new baby. This concurs with Ferguson's observation (1964, p. 111) that "a child who has just gotten past

the use of baby talk by his parents may then revert to baby talk--in fact, even use talk that he has not used before--in order to get attention or to be treated in some way as a baby." The two grammatical modifications Fred made in this sentence were to change sock to sˇockˇs and change is to waˇsˇ. Only one sock was involved but the plural may have been added just for the benefit of inserting one more sˇ, a phonetic modification which seems to be one of Fred's favorite baby-talk markers. The change from present tense to past tense also seems to go against the general rules for simplification--the usual criterion for grammatical modification in baby talk. However, this sentence was read to several native-born English speakers who thought it was a possible sentence in adult baby talk. There may be some sort of a rule that states: If a sentence starts out in the simplest possible form, modify it in some other way so that it differs from standard adult speech.

Another possible example of grammatical modification is the omission of how in Sample 19 in which Fred says he's going to tell a story "about a garden grows."

Not many examples of phonetic modification were found; it seemed to be an effort for Fred to maintain it throughout an entire utterance. Nothing was recorded from John that could be called phonetic modification partly because his normal speech is still rather like the description given of phonetic modification, particularly where vowels are concerned. His baby talk to his bird and dog consists mainly of a slightly higher than normal pitch.

Exaggerated intonation occurred with eight other registers, making it the most versatile of all registers. Leslie used it at 1,7 with high pitch--the earliest example of any of these three children using a cluster of the baby-talk registers. She had been asked to name things from her toy box and she used normal pitch and intonation for everything she named except the doll, which she called /gi gi/. The first gi was much higher than the second gi and they were both higher than normal.

The suggestion that Leslie used exaggerated intonation indicates that she has already established normal intonation patterns, and this appears to be true even though her longest sentence to date is "Mommy go bye-bye." Before she was a year old she started babbling with sentence-type intonation patterns, and now at 1,9, when she wants to say something that goes beyond her vocabulary she communicates with intonation. She does this most often when she is very pleased or excited. In this case she almost always starts the sentence with the name of the person she is addressing as a means of getting their attention, and then she completes the sentence with ga ga's, e.g., "Mommy! gagaga gaga gagagaga!" She also has a "counting" intonation which she uses for pointing to objects on each page of her counting book. For this she uses only vowels, no consonants, and as she pronounces each of five different vowels she uses a rising intonation and a pause before she goes on to the next vowel.

Other writers have commented on the early use of intonation by children. Weir (1962, p. 28) states that "it is frequently noted in observations on the linguistic development of the child

that intonation or sentence melody is one of the earliest linguistic features acquired by a child." McNeill (1966, p. 53) also states that "children, even before the first birthday, imitate intonation contours in parental speech."

Exaggerated intonation, after high pitch, was the register Fred used most consistently with Leslie and phonetic modification was the one he used least. Although exaggerated intonation seems to be relatively easy for Fred to maintain throughout an utterance and even throughout short discourse, he seems to drop it with Leslie when he expects her to understand. As noted earlier, under these circumstances he retains only high pitch from the baby-talk registers and switches to clarification. He gives the impression that he is using baby talk only in deference to some courtesy rule--it is the pleasant way to talk to a baby who doesn't understand the language. This may be the general rule in our culture--that baby talk is maintained at later ages primarily for pleasantries and for conveying affection, and that baby talk is essentially dropped at an early age for instruction-giving, explanation, and similar conversation with young children. In Sample 15, for example, it may be noted that Fred dropped all of the baby talk registers for his final explanatory statement to Leslie. In contrast, Crawford (1970) states that the Cocopa Indians use baby talk with their children until they are about ten years old.

Fred also makes regular use of exaggerated intonation in storytelling. Sample 19 is just one of many examples. The exaggerated intonation register lasts only as long as he is very sure

of what he is going to say. As soon as he starts concentrating on what to say next he reverts to other registers or to unmarked speech. It is typical of teachers and members of his family to use a more exaggerated intonatinn pattern in story-reading than in conversation, and the younger the age of the listener, the more exaggerated the intonation pattern is likely to be. To this extent, it is probably related to baby-talk style.

In order to recognize most of the instances of mimicry found in the course of this study it was necessary to be thoroughly familiar with the normal speech pattern of the particular child being studied. Thus, when John said "Indeed not!" or "I rather think so," or Fred said "Hewo, widdo Miss Pwitty" with paralinguistic features and lexical items that did not fit into their normal speech pattern, it could be assumed to be an instance of mimicry. Possibly other cases of mimicry occurred during recording sessions but were not sufficiently distinctive to be noted.

This study was limited to glossable items, and with that limitation, no instances were noted of Leslie using the mimicry register, however she does seem to use mimicry as a register with non-glossable items, and may well be the most expert mimic of the three children. She gives quite accurate, immediate imitations of bird calls, dog noises, the roar of an airplane, and strange noises that another person makes for her. Sometimes she uses mimicry as a joke, that is, when she has finished imitating someone she laughs as though she has told a joke. Family members sometimes mimic her unintelligible sounds as a joke, also.

Conclusions

1. The material presented here offers evidence that children learn a number of speech registers and begin to use them at approximately the same time they start to use language itself. This may seem obvious to many observers of child language development, but it has rarely been explicity noted in the literature and is amost completely ignored by current psycholinguistic research. Even the extended attention given to the acquisition of "usage patterns" (Hymes, 1962; Slobin, 1967) is generally limited to "styles" and "roles" at a later age and does not include the kind of registral differences examined here.

2. The tentative analyses presented here indicate that it is possible to identify single registers and clusters of registers ("styles") in terms of phonetic markers and communicative value. The identifications made here may not prove to be the best, but the principle of analysis of the speech data into registers and clusters of registers which are phonetically and communicatively characterized does seem to be feasible and useful.

3. The study also suggests that there may be greater variation in the ages at which children learn to use the registers discussed in this paper than there is in the variation in the age at which they learn to perform other linguistic tasks such as forming plurals or putting together two-word sentences. This is not too surprising since there is probably greater individual variation in adult competence in the use of registers than in ordinary grammatical competence. Furthermore, with certain exceptions, it would appear

that if these ten registers were ordered according to frequency in the children's speech, it would probably be close to the same order as the order of their importance in adult speech. For example, the register found most frequently was the register of clarification--one that adults seem to use often. The register found the least frequently was grammatical modification--a register that adults probably use very little also.

4. This study represents only a preliminary examination of the use of speech registers in young children. A great deal of research needs to be done in order to determine the precise linguistic nature of the registers themselves, the extent to which they may or may not co-occur, and the social and linguistic framework in which they may or may not occur. Research is needed both on the extent of adult competence and usage of the registers and on child acquisition of the registers.

References

Bernstein, B. Social class, linguistic codes and grammatical elements. Lang. & Speech, 1962, 5, 221-240.

Bodine, A. The phonological system of a five-year-old Mongoloid (Down's Syndrom) boy. Working paper, Language-Behavior Research Laboratory, University of Calif., Berkeley, 1968.

Carlson, P. & Anisfeld, M. Some observations on the linguistic competence of a two-year-old child. Child Dev., 1969, 40, 569-575.

Crawford, J. M. Cocopa baby talk. Int. J. Amer. Linguistics, 1970, 36, 9-13.

Crystal, D. Non-segmental phonology in first-language acquisition. Unpublished paper, University of Reading, 1969. (a)

Crystal, D. Prosodic systems and intonation in English. Cambridge, England: Cambridge Univer. Press, 1969. (b)

Ferguson, C. A. Baby talk in six languages. Amer. Anthro., 1964, 66, 103-114.

Ferguson, C. A. Absence of copula and the notion of simplicity: A study of normal speech, baby talk, foreigner talk and pidgins. Paper presented at the Conference on Pidginization and Creolization, April, 1968. (To appear in D. Hymes (Ed.), Proceedings of the Conference on Pidginization and Creolization, 1970.)

Fischer, J. L. Social influences on the choice of a linguistic variant. Word, 1958, 14, 47-56.

Fishman, J. A. Sociolinguistics. In K. W. Back (Ed.), Social psychology, New York: Wiley, 1969.

Halliday, M. A. K., McIntosh, A., & Strevens, P. D. The linguistic sciences and language teaching. London: Longmans, Green & Co., 1964.

Hymes, D. H. The ethnography of speaking. In T. Gladwin & W. C. Sturtevant (Eds.), Anthropology and human behavior. Washington, D. C.: Anthrop. Soc. of Wash., 1962, 13-53. (Republished: In J. A. Fishman (Ed.), Readings in the sociology of language. The Hague: Mouton & Co., 1968, 99-138.)

Joos, M. The five clocks. New York: Harcourt, Brace & World, 1961.

Kelkar, A. R. Marathi baby talk. Word, 1964, 20, 40-54.

Labov, W. The social stratification of English in New York City. Washington, D. C.: Center for Applied Linguistics, 1966.

McNeill, D. Developmental psycholinguistics. In F. Smith & G. A. Miller (Eds.), Genesis of language. Cambridge, Mass.: M. I. T. Press, 1966, Pp. 15-84.

Pike, K. L. The intonation of American English. Ann Arbor: Univer. of Mich. Press, 1945.

Pittenger, R. E., Hockett, C. F., & Danehy, J. J. The first five minutes. New York: Paul Martineau, 1960.

Slobin, D. I. (Ed.) A field manual for cross-cultural study of the acquisition of communicative competence. Berkeley: Univer. of Calif., 1967.

Trager, G. L. Paralanguage: A first approximation. Studies in Linguistics, 1958, 13, 1-12. (Republished in D. Hymes (Ed.), Language in culture and society. New York: Harper and Row, 1964, Pp. 274-279.)

Trager, G. L. Taos III: Paralanguage. Anthro. Linguistics, 1960, 2, 2, 24-30.

Trager, G. L. & Smith, H. L., Jr. An outline of English structure. Washington, D. C.: American Council of Learned Societies, 1957.

Weeks, T. E. The process of speech socialization in children. Unpublished paper, Stanford Univer., 1969.

Weir, R. Language in the crib. The Hague: Mouton and Co., 1962.

Footnotes

Author's name and address: Thelma E. Weeks, Box 3698, Stanford, California, 94305.

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Table 1

Sample No.	Age*	Name**	Speech Samples	Registers *** 1 Whisper	2 Softness	3 Loudness	4 Clarif.	5 Fuzzy	6 High Pitch	7 Gram. Mod.	8 Phon. Mod.	9 Ex. Inton.	10 Mimicry
1			(Leslie entered while her mother was on phone)										
	1,7	L	Bye. (Then she waved and left the room.)	+	-	-	-	-	-	-	-	-	-
2	3,1	J	Would you like to watch me swing on that swing?	-	-	-	-	-	-	-	-	-	-
			("Yeah")										
			I might fall in the bushes.	-	-	-	-	-	-	-	-	-	-
			("You might?")										
			I am, I said!	-	-	+	+	-	-	-	-	-	-
			Watch.	-	-	-	-	-	-	-	-	-	-
			Watch me. (Concentrating as he starts swinging)	+	-	-	-	-	-	-	-	-	-
3			(Fred was deciding on stories to be told at his birthday party.)										
	4,11	F	Yeah! Whyncha--why dontcha do	-	+	-	-	-	-	-	-	+	-
			that one.	+	-	-	-	-	-	-	-	+	-

*1,7 = 1 year, 7 months

**L = Leslie, F = Fred, J = John

***a plus in the column indicates presence of the register, a minus indicates its absence

Sam. #	Age	Name	Table 1, continued	1 Wh.	2 Soft.	3 Loud.	4 Clar.	5 Fuzzy	6 High	7 G. M.	8 Ph. M.	9 E. Int.	10 Mim.
			That's a good one!	-	+	-	-	-	-	-	-	+	-
4	5,1	F	Is Captain Kangaroo on this morning?	-	+	-	-	+	-	-	-	-	-
			(He knew it was Saturday, that the program was not shown on Saturday, and that he was not allowed to watch it even on weekdays.)										
5			("Did you sometimes tell your teacher about things that happened at home?")										
	4,9	F	No	-	+	-	-	-	-	-	-	-	-
			("You didn't?")										
			No, not really.	-	+	-	-	+	-	-	-	-	-
			(His voice was so low I couln't understand. "What?")										
			Not really.	-	-	-	+	-	-	-	-	-	-
6			(Leslie was making a mess with her food at dinner and her mother asked if she wanted to go to her room.)										
	1,7	L	No. (barely audible low voice, but not whisper)	-	+	-	-	-	-	-	-	-	-

Samp. #	Age	Name	Table 1, continued	1 Wh.	2 Soft	3 Loud	4 Clar.	5 Fuzzy	6 High	7 Gr. M.	8 Ph. M.	9 E. Int.	10 Mim.
7			(During the tag question test)										
	3,9	F	Now what's the little question? (talking to himself)	-	+	-	-	-	-	-	-	-	-
8			(Leslie objected to having her sweater taken off when she came in the house)										
	1,8	L	ba ba ba ba! (she wanted to go bye-bye again)	-	-	+	-	-	-	-	-	-	-
9			(John is identifying magazine pictures. He pointed to a piece of sculpture. I asked "What's that?")										
	1,11	J	/IkidaIpə/ (He sees that I don't understand)	-	-	-	-	-	-	-	-	-	-
			/Ik + i + daI + pər/ (Icky diaper)	-	-	-	+	-	-	-	-	-	-
10			(John is putting a record on his record player.)										
	3,1	J	Yeah, that's how you work it.	-	-	+	-	-	-	-	-	-	-
			("I see.")										
			And then you put a needle on.	-	-	-	+	-	-	-	-	-	-
			("And how do you put the needle on?")										
			You just put on very gently.	-	-	-	+	-	-	-	-	-	-

Samp. #	Age	Name	Table 1, continued	1Wh.	2Soft	3Loud	4Clar.	5Fuzzy	6High	7Gr. M.	8Ph. M.	9E. Int.	10Mim.
11	4,11	F	Leslie, I'm going to draw part of a train.	-	-	-	-	-	-	-	-	-	-
			Hey, do you want to see how well	-	-	-	+	-	-	-	-	-	-
			I can do it?	-	+	-	+	-	-	-	-	-	-
			I can do it. (concentrating)	-	+	-	-	-	-	-	-	-	-
			See! I can really do it well.	-	-	+	+	-	-	-	-	-	-
			("Yes, you do very well.")										
			C'n do the spring. (still drawing)	-	+	-	-	+	-	-	-	-	-
12	3,9	F	And then we'll put this on top. (building blocks)	-	-	-	-	-	-	-	-	-	-
			This will be where to get a drink a water. This	-	-	-	+	-	-	-	-	-	-
			will be all in the shaped-order.	-	-	-	+	-	-	-	-	-	-
			("A shape-order?")										
			Yes, a shape-order--an order shaped like a stack.	-	-	-	+	-	-	-	-	-	-
13			(John's mother, "Would you like to go to Fred's										
			birthday party?")										
	3,1	J	Yes, I do want to go to Fred's party.	-	-	-	+	-	-	-	-	-	-
14	3,3	J	We knocked--Daddy knocked on the door and then we	-	-	-	-	-	-	-	-	-	-
			camed in.	-	-	-	-	-	-	-	-	-	-

Samp.#	Age	Name	Table 1, continued	1 Wh.	2 Soft	3 Loud	4 Clar.	5 Fuzzy	6 High	7 Gr. M.	8 Ph. M.	9 E.Int.	10 Mim.
			("Then you camed in, huh? Aunt Linda asked you to come in?")										
			No, no she /dId + ʌnt/. (didn't)	-	-	-	+	-	-	-	-	-	-
			("Oh, she didn't? What did she do?")										
			She dis stood staying there.	-	-	-	-	-	-	-	-	-	-
			("She was just standing there, huh?")										
			No, she /diš/ was stands there, say (indistinct from hurrying)	-	-	-	-	+	-	-	-	-	-
			"/hʌlo hʌlo hʌlo hʌlo/" (hello)	-	-	-	+	-	-	-	-	+	+
			to everybody.	-	-	-	+	-	-	-	-	-	-
15			("And what does Leslie say to you?")										
	3,9	F	Well, she says	-	-	-	-	-	-	-	-	-	-
			"/bu bu nyuo w̃ǒ/"	-	-	-	-	-	+	-	+	-	+
			("And what do you say to her?")										
			I say	-	-	-	-	-	-	-	-	-	-
			"What do you do, Leslie, and where are you?	-	-	-	+	-	+	-	-	+	+
			I am /ʌ æmo/" (animal)	-	-	-	-	+	-	-	-	-	-
			("You're an animal, huh?")										

Table 1, continued

Samp. #	Age	Name		Weeks 1 Wh.	2 Soft.	3 Loud.	4 Clar.	5 Fuzzy	6 High	7 Gr.M.	8 Ph.M.	9 E.Int.	10 Mim.
			Yeah, she's an animal.	-	-	-	-	-	-	-	+	-	-
			("What kind of an animal?")										
			Well, she's a tiger. You're a tiger, Les.	-	-	-	-	-	-	-	-	-	-
16			("Did you have such a bad day at school?")										
	4,11	F	Um hum (mouth closed)	-	+	-	-	+	-	-	-	-	-
			("What was so bad about it?")										
			Somebody hit me. (nasal)	-	+	-	-	+	-	-	-	-	-
			("Somedoby hit you? Who hit you?")										
			One of my friends. (nasal)	-	+	-	-	+	-	-	-	-	-
17	3,10	F	Hi, Les! How are you? (Leslie is 0,6)	-	-	-	-	-	+	-	+	+	+
			Oh you're laugh--playing laughing all the time!	-	-	-	-	-	+	-	-	+	-
			Why? Why? Why?	-	-	-	-	-	+	-	-	+	-
			Can you shake hands?	-	-	-	-	-	+	-	+	+	-
			How come you laugh all the time? How come?	-	-	+	-	-	+	-	-	+	-
18			(Fred rubbed his foot. "What's the matter? Did you hurt yourself?")										
	3,4	F	Yeah. It's right here.	-	-	-	-	-	-	-	-	-	-

Samp. #	Age	Name	Table 1, continued	1 Wh.	2 Soft	3 Loud	4 Clar.	5 Fuzzy	6 High	7 Gr.M.	8 Ph.M.	9 E. Int.	10 Mim.
			("Well, that's too bad.")										
			It's--you take off my /šoks/ (socks) and you can	-	-	-	-	-	-	+	+	+	-
			šee how my hurt waš.	-	-	-	-	-	-	+	+	+	-
19			("You're going to tell a story?")										
	3,10	F	Yeah, about a garden grows.	-	-	-	+	-	-	-	-	+	-
			("About how a garden grows? OK.")										
			This is how a garden grows. The flowers are growing	-	-	-	+	-	-	-	-	+	-
			with some	-	-	-	+	-	-	-	-	+	-
			seeds, and the seeds grow out like flowers	-	-	-	-	-	-	-	-	+	-
			and they always have to. Why can't things go	-	+	-	-	+	-	-	-	-	-
			back and forth? Because they're attached on	-	+	-	-	+	-	-	-	-	-
			to the top and they can't go	-	+	-	-	+	-	-	-	-	-
			any place else. And that's the end of the story.	-	-	-	+	-	-	-	-	-	-
20			("You like bath?")										
	1,11	J	No.	-	-	-	-	-	-	-	-	-	-
			("You don't like bath?")										
			No. Don't. (nasal)	-	-	-	-	-	+	-	-	-	-

Samp.#	Age	Name	Table 1, continued	1Wh.	2Soft	3Loud	4Clar.	5Fuzzy	6High	7Gr.M.	8Ph.M.	9E.Int.	10Mim.
			(John's father, "Usually there's soap in the bathtub, isn't there?" Me: "You like soap?")										
			No. (nasal)	-	-	-	-	-	+	-	-	-	-
21			(Fred is building with blocks)										
	3,9	F	Yeah, like a shape modern--(1½ sec. paus)--thing.	-	-	-	+	-	-	-	-	-	-
			Yeah, it's going to be	-	-	-	-	-	-	-	-	-	-
			really fancy.	-	-	-	+	-	-	-	-	-	-
			Look at it! Look at it!	-	-	-	+	-	+	-	-	-	-

Weeks

Table 2

Uses for Single Registers

(by the subjects in this study)

1. Whisper:
   a. private speech
   b. in lieu of silence in "no talking" situations
   c. secrets or confidential matters
   d. timidity in social situations
2. Softness:
   a. private speech
   b. expression of futility
3. Loudness:
   a. correction, scolding, or objection
   b. giving instructions or explanations
4. Clarification:
   a. correcting a misunderstanding
   b. avoiding misunderstanding
   c. giving instructions or explanations
5. Fuzzy Speech:
   a. indecision
   b. hurrying on to more important part of utterance
6. High Pitch:
   a. uncertainty
   b. complaining
   c. baby talk

7. Grammatical Modification

    a. reminiscent use of baby talk

8. Phonetic Modification

    a. baby talk (to an adult about a child)

9. Exaggerated Intonation:

    a. story-telling

10. Mimicry:

    a. accurate reporting of events

    b. careful following of directions

Table 3

Uses for Register Clusters

1. Whisper + Exaggerated Intonation:
   a. excitement + confidential matters
2. Softness + Exaggerated Intonation:
   a. excitement + confidential matters
3. Softness + Clarification:
   a. private speech
   b. talking to younger child
4. Softness + Fuzzy Speech:
   a. futility
   b. sadness
   c. lying
   d. private speech
   e. uncertainty in story-telling
5. Loudness + Clarification:
   a. instruction giving
6. Loudness + High Pitch:
   a. excitement
   b. requesting attention
7. Clarification + High Pitch
   a. excitement + instruction giving
   b. baby talk (to older baby)
8. Clarification + Exaggerated Intonation:
   a. story-telling

9. Clarification + Exaggerated Intonation + Mimicry:

    a. imitation of adult conversation

10. Simplification + Exaggerated Intonation + Phonetic Modification:

    a. baby talk to adult

11. High Pitch + Phonetic Modification + Mimicry:

    a. baby talk

12. Clarification + High Pitch + Exaggerated Intonation + Mimicry:

    a. baby talk

13. High Pitch + Exaggerated Intonation:

    a. baby talk

14. Loudness + High Pitch + Exaggerated Intonation:

    a. baby talk

15. Loudness + High Pitch + Exaggerated Intonation + Phonetic Modification + Mimicry:

    a. baby talk

16. High Pitch + Exaggerated Intonation + Phonetic Modification + Mimicry:

    a. baby talk

Table 4

Register Co-occurrences

Weeks	1	2	3	4	5	6	7	8	9	10
	Whisper	Softness	Loudness	Clarif.	Fuzzy	High P.	Gr. Mod.	Ph. Mod.	Ex. Int.	Mimicry
1									Whisper	
2				Softness	Softness				Softness	
3				Loudness		Loudness			Loudness	
4		Clarif.	Clarif.			Clarif.			Clarif.	Clarif.
5		Fuzzy								
6			High P.	High P.				High P.	High P.	High P.
7								Gr. Mod.	Gr. Mod.	
8	Ex. Int.	Ex. Int.	Ex. Int.	Ex. Int.		Ex. Int.	Ex. Int.	Ex. Int.		Ex. Int.
9						Ph. Mod.	Ph. Mod.		Ph. Mod.	Ph. Mod.
10				Mimicry		Mimicry		Mimicry	Mimicry	

Weeks

SPEECH REGISTERS IN YOUNG CHILDREN

Subjects for this two-year study were three children: one girl and two boys aged one year nine months, three years four months, and five years two months, respectively. In this study register refers to a speech variety selected by the speaker to convey additional information or emotion beyond that conveyed by his words alone, e.g., high pitch is considered a register when it is maintained throughout an utterance since it conveys a different meaning than the same utterance at normal pitch. The study focuses on the functions and co-occurrences of each register, the ages of acquisition, and the social contexts of use. Results suggest that children acquire speech registers concurrently with language and that the progression of acquisition varies more for registers than for grammatical forms.